



INSTRUCT-O-GRAM

THE HANDS-ON TRAINING GUIDE FOR THE FIRE INSTRUCTOR

VOLUME XXI • ISSUE 4

APRIL 2000

GROUND LADDERS

LEVEL OF INSTRUCTION

Basic

TIME REQUIRED

Three Hours

MATERIALS

Various Ground Ladders

OBJECTIVES

1. Demonstrate a basic understanding of ground ladder operations, positioning fire streams with ladders, carrying ground ladders, raising ground ladders, and climbing ground ladders.
2. Identify the purpose of fire service ladders.
3. Describe the techniques of using ground ladders to support fire streams.
4. Raise all portable ladders carried on the apparatus using the flat or beam raise, and climb correctly the full length of those ladders.

OVERVIEW

Ground Ladders

- Ground ladder operations
- Positioning fire fighting streams
- Ground ladder practical

I. GROUND LADDER OPERATIONS

A. Introduction

1. Within height and personnel limitations, ground ladders can be effective in a number of operations.
2. Some uses are the same as aerial units, but others are unique.
 - a. Gaining access to the fire building and exposed buildings.
 - b. Advancing hoselines when stairways are used by people escaping.
 - c. Replacing a damaged stairway.
 - d. Removing trapped victims.
 - e. Removing people from crowded fire escapes.

- f. Getting from one roof level to another.
- g. Reinforcing weakened building features.

B. Ladder Work

1. Ladder work should be assigned to those performing truck duties.
2. If ladder duties are not specifically assigned, rescue or fire attack operations can be delayed.
3. Ladder operations affect the efficiency of nearly all other fireground operations.

C. Handling Ground Ladders

1. There are several ways to carry ground ladders from the apparatus.
2. The method used should require the least maneuvering and time.
3. There should be no need to lay the ladder on the ground after carrying it to a building or before raising it.
4. One way to avoid extra movement is to carry it with rungs and trusses parallel to ground – once the butt is in position near the wall, lower it to the ground while the upper part of the ladder is raised from shoulder height.
5. The ladder can then be pivoted and extended if necessary.
6. Two- and three-person ladders can be quickly placed for a beam raise.
7. A two-person ladder is carried with fire fighters on opposite corners.
8. A three-person ladder is carried with two fire fighters at each end of one truss and one in the middle on the opposite truss.
9. A four-person ladder is carried with two fire fighters at each end and an additional two crew members at or near the middle.

10. If the manufacturer makes no recommendation, position the fly section away from the building.
11. The climbing angle is determined by the height of the raise and the distance from butt to building. The butt to building distance should be equal to one-quarter of the height of raise.

D. Safety

1. Be careful of overhead obstructions, especially electric wires.
2. Once the ladder is raised, it should be tied in to the building or braced by a fire fighter
3. Ladders should not be overloaded – fire fighters should be at least ten feet apart at normal climbing angles.
4. If the climbing angle is decreased or hose is being carried up, the distance between those on the ladder should be increased to twenty feet.
5. When a ladder is used to enter a building, it should be left in place as a means of egress.

II. POSITIONING FIRE FIGHTING STREAMS

A. Placing Ladders

1. Should be placed where they will be of use in the overall operation.
2. Size up will indicate where the building may have to be entered.
3. Occasionally, properly positioned ladders will not be needed, possibly because the fire was quickly controlled from other positions.
4. Avoid placing ladders in front of any building entrances.

B. Climbing Ladders

1. Fire fighters carrying lines should be at least fifteen feet apart.
2. Hose should be grasped at the couplings or midway between couplings with loops hanging off the side of the ladders.
3. Once the line is advanced into the building, it should be moved clear of the ladder so it hangs down the face of the building.

C. Positioning Fire Fighting Streams

1. Ladders can be used to hold and position streams being directed into the building.
 - a. Topmost three or four rungs should extend over the sill and into the window, the line is tied to the ladder so the stream is directed through the window opening.
 - b. The ladder is raised over the window with the top placed against the wall above, a line is tied to the ladder, and the stream is directed onto the fire.
2. Ladders should be tied to the building if possible.
 - a. Ladders in windows can be tied in with a rope/hose tool.
 - b. Ladders against a wall can be tied to a pike pole placed across the inside of a lower window.
3. Hoselines should be tied to the ladder in manner that will allow the rope to absorb some of the nozzle reaction when the nozzle is opened.
 - a. Do not tie rigidly to the ladder rungs.
 - b. Hose streams should be suspended between rungs.

4. Can be used to knock down fire ahead of crews advancing interior lines.
5. Ladder streams should be shut down as interior lines approach.
6. Once a ladder stream has knocked down the fire, it can be shut down, untied, advanced, recharged, and used for interior attack.
 - a. Allow smoke or steam to clear the area.
 - b. Check interior conditions.
 - c. Enter the window only when a second fire fighter has climbed to position immediately outside the window to assist in advancing the line and back up.

III. GROUND LADDER PRACTICAL**A. Demonstrate the following using ground ladders:**

1. One, two, and three person beam carries.
2. Two, three, and four person flat carries.
3. One, two, three, and four person raises.
4. Placement for fire fighting, rescue, and roof operations.
5. Climbing.

ACKNOWLEDGMENT

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